

LA-UR-21-23464

Approved for public release; distribution is unlimited.

Title: LANL Meteorology Program

Author(s): Bruggeman, David Alan
Waight, Kenneth Thomas III
Stanton, Gregory T.
Coronado, Melissa A.

Intended for: DOE Meteorological Subcommittee WebEx

Issued: 2021-04-12

Disclaimer:

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by Triad National Security, LLC for the National Nuclear Security Administration of U.S. Department of Energy under contract 89233218CNA000001. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.



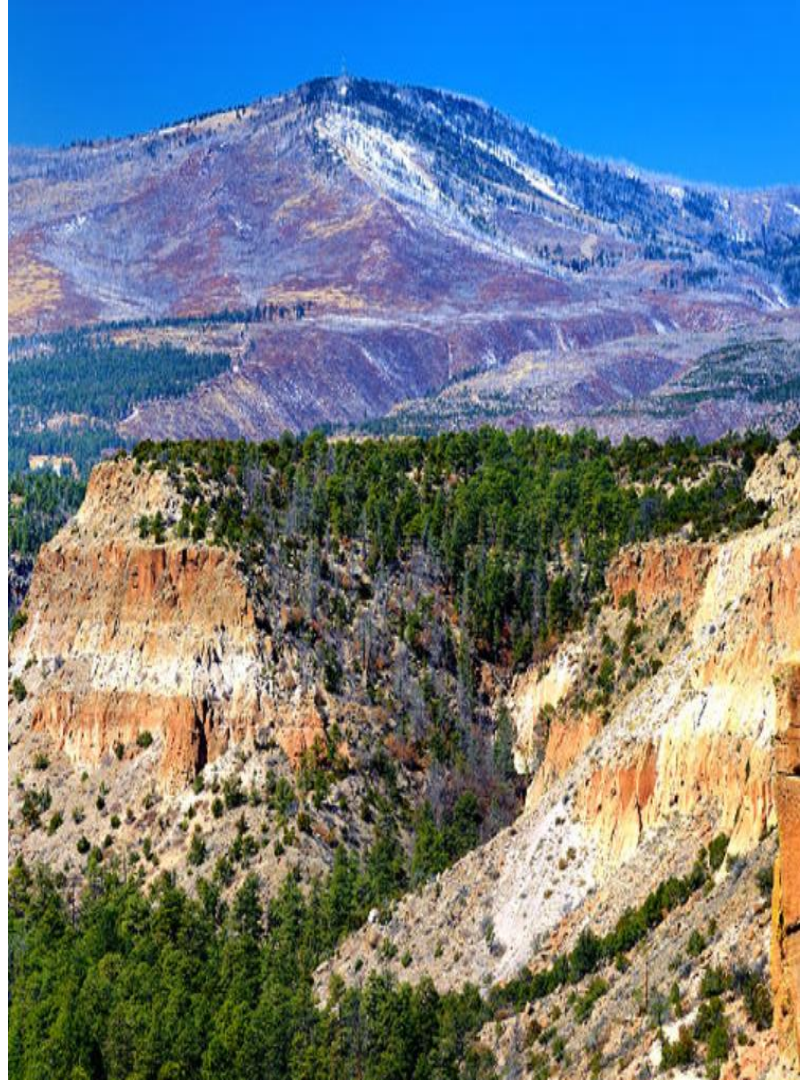
LANL Meteorology Program

David Bruggeman
Kenneth Waight
Greg Stanton
Melissa Coronado

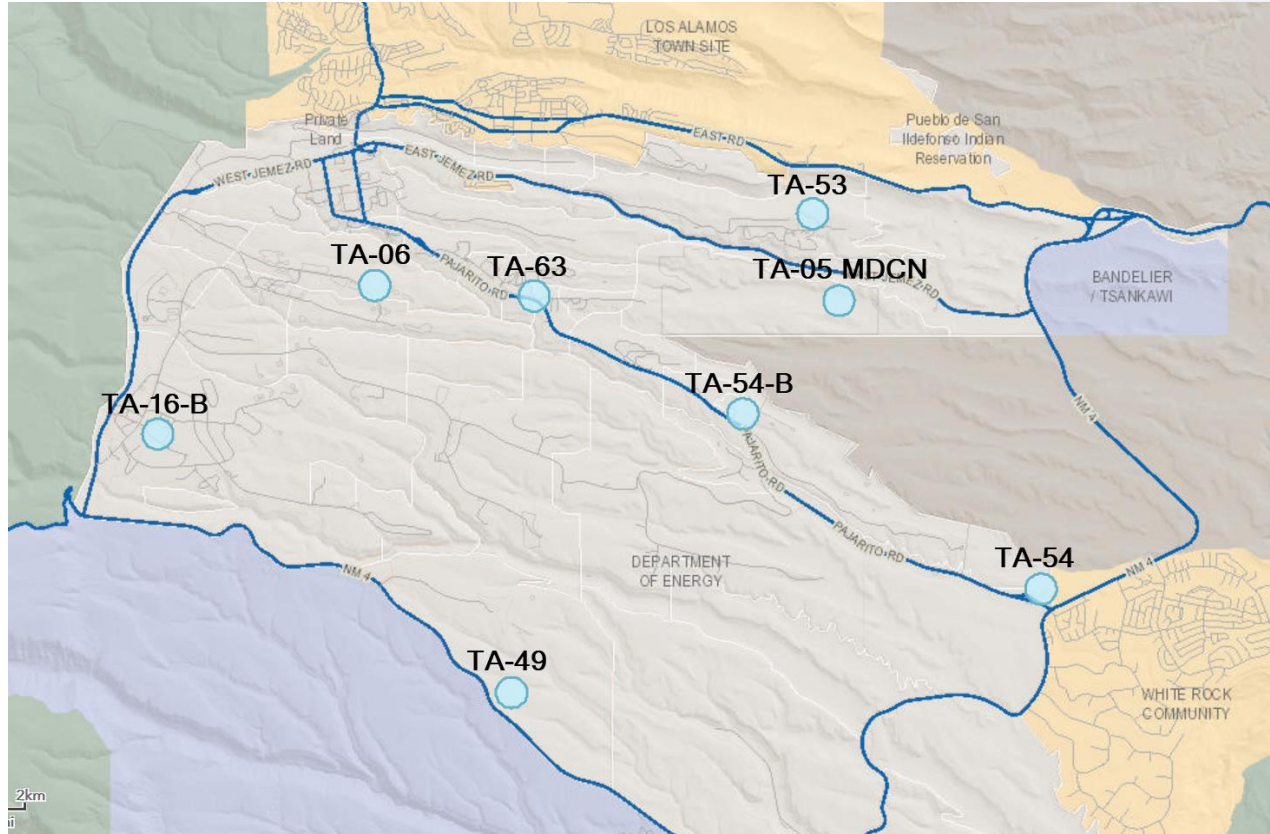
April 14, 2021

About Us

- Staff
 - 2 meteorologists
 - 1.5 instrument technicians
 - Data steward
 - Minimal IT support
 - Part work from home
- Customers
 - Emergency Operations Center
 - Safety Basis
 - High Explosives
 - Utilities & Infrastructure
 - Various projects



Meteorological Tower Locations



Meteorological Towers

- 8 towers
 - 4 mesa, 3 new mesa
 - 1 canyon
- 10, 46, and 92 m towers
- Wind and temperature on 1, 3, or 4 levels



Surface Instruments



Tipping Bucket Rain Gauge

All Weather Inc 6021-A



Snow Depth

Campbell Scientific SR50



Sodar

Scintec Flat Array XFAS with RASS

Coming Soon



Laser Snow Depth

Lufft SHM31



Radiometer

Radiometrics MP-3000A



2 Trailer Towers

Aluma TM-12



New Towers



New Tower Instruments



Horizontal Wind

RM Young 05305



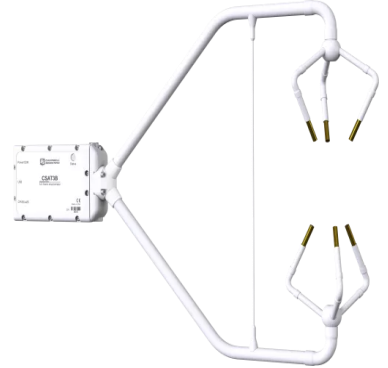
Vertical Wind

Gill 27106T



3-D Sonic

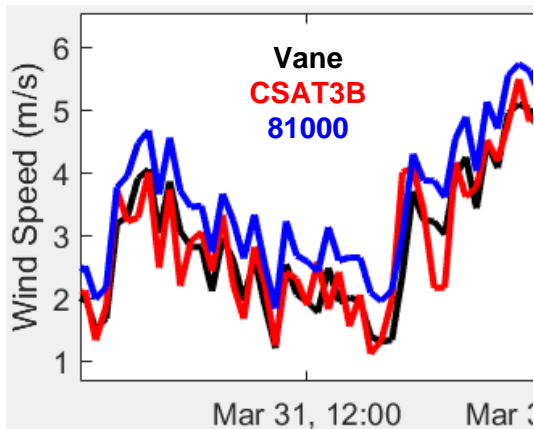
RM Young 81000



3-D Sonic

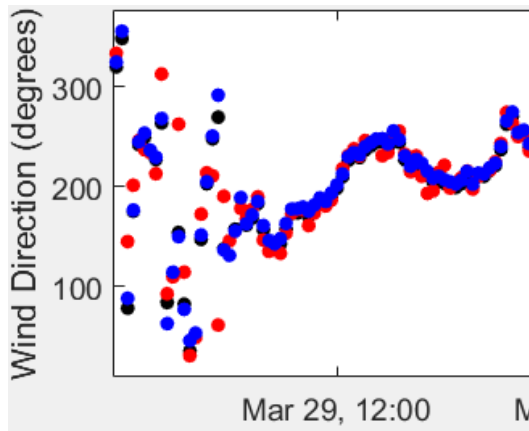
Campbell Scientific CSAT3B

Early Results



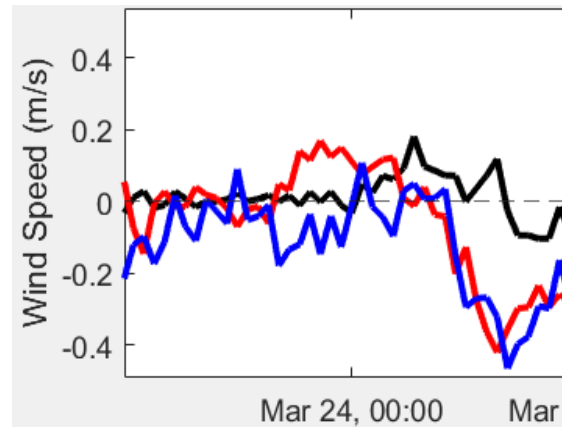
Wind Speed

RM Young sonic higher than CSI sonic and vane over 98% of the time



Wind Direction

RM Young sonic measures closer to vane, more variance with CSI sonic



Vertical Speed

No trends

